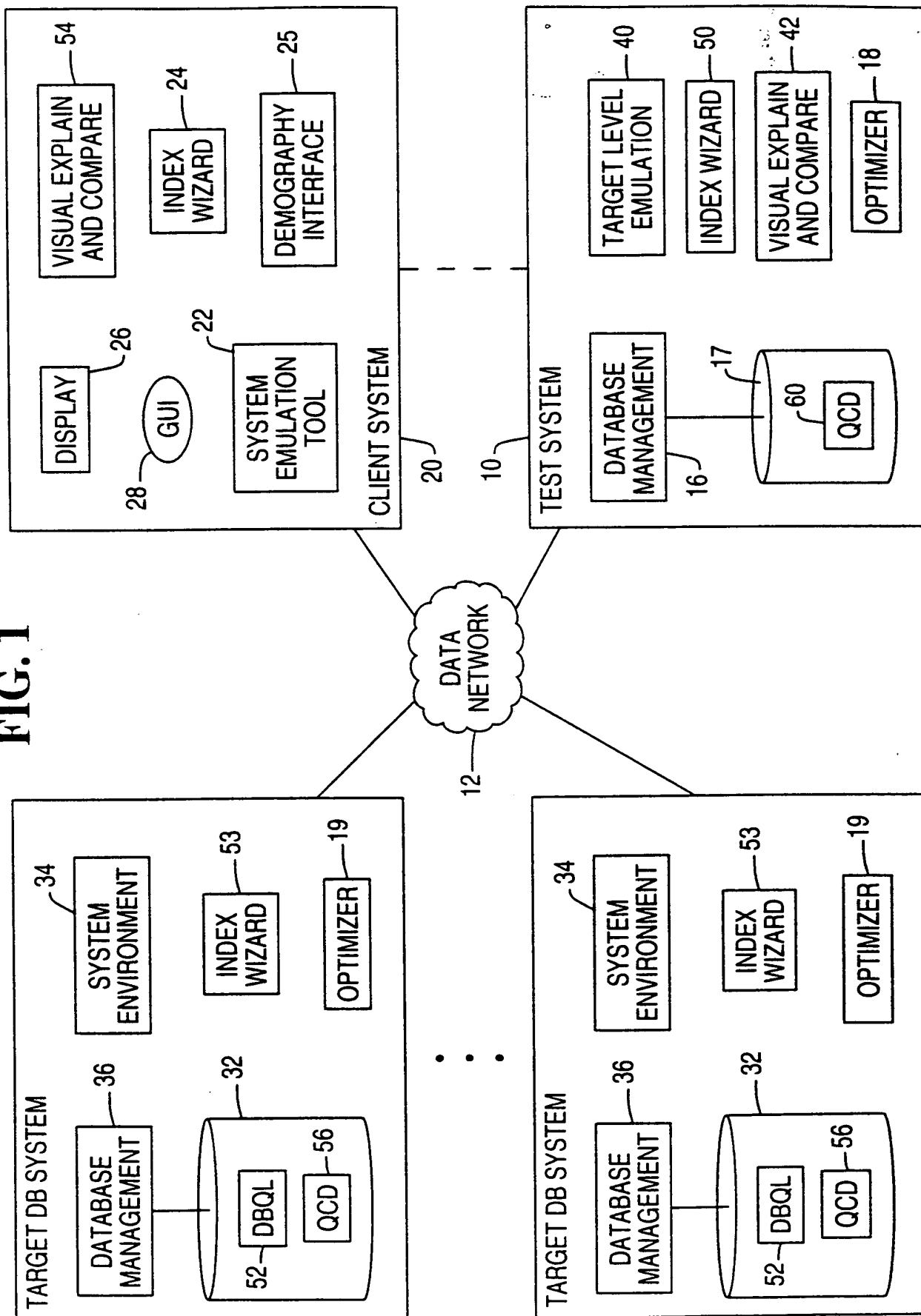
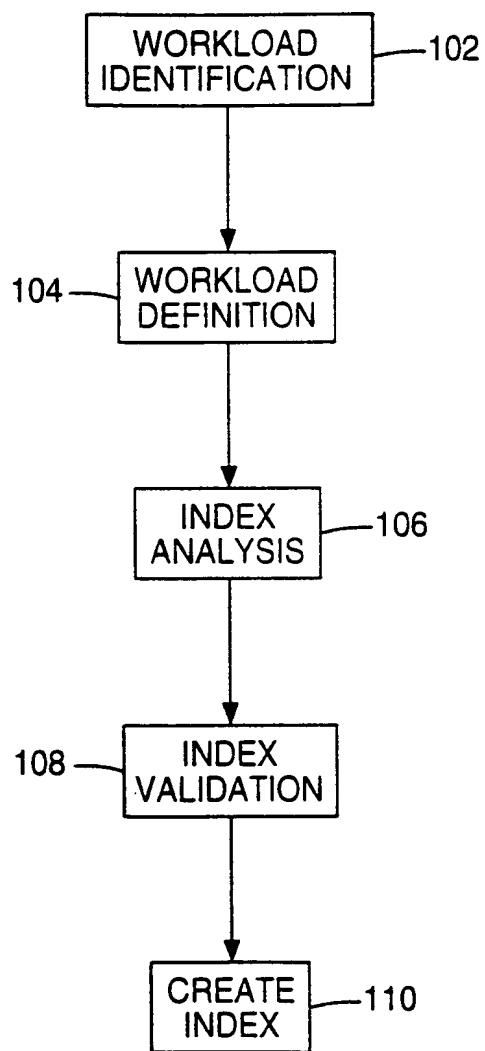


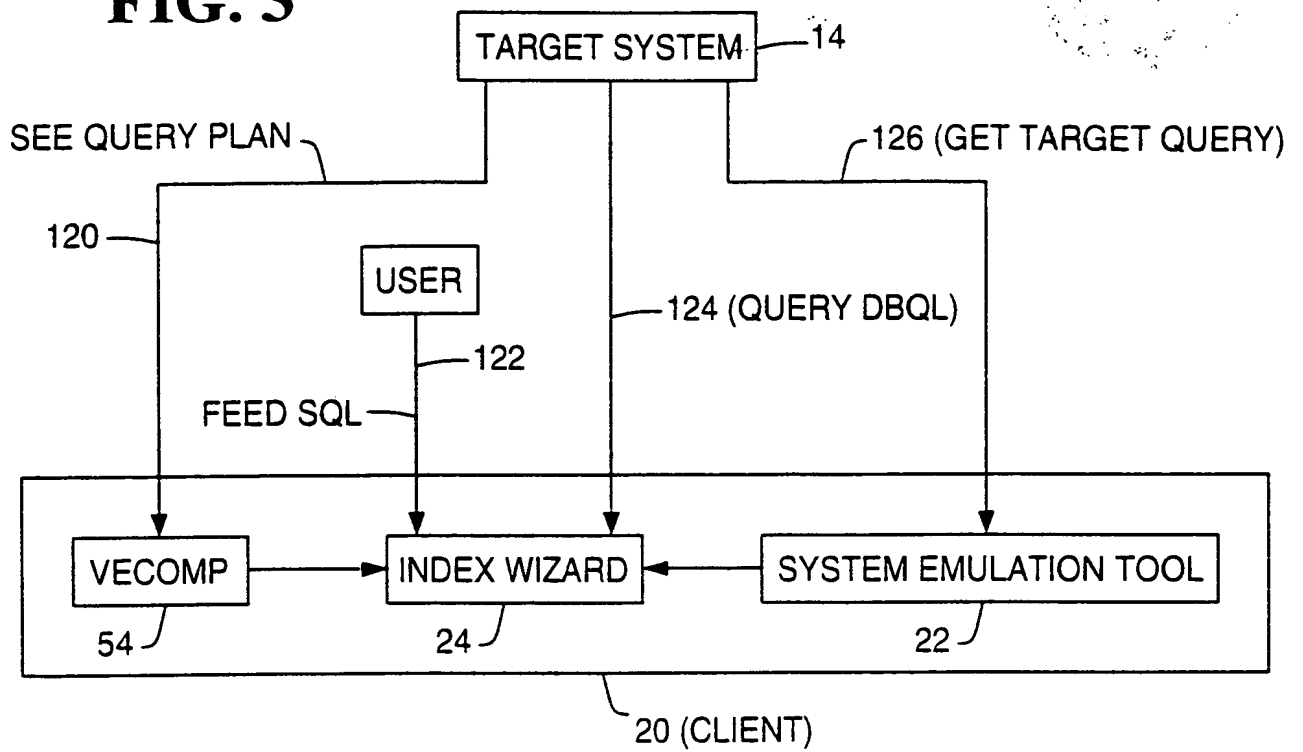
FIG. 1



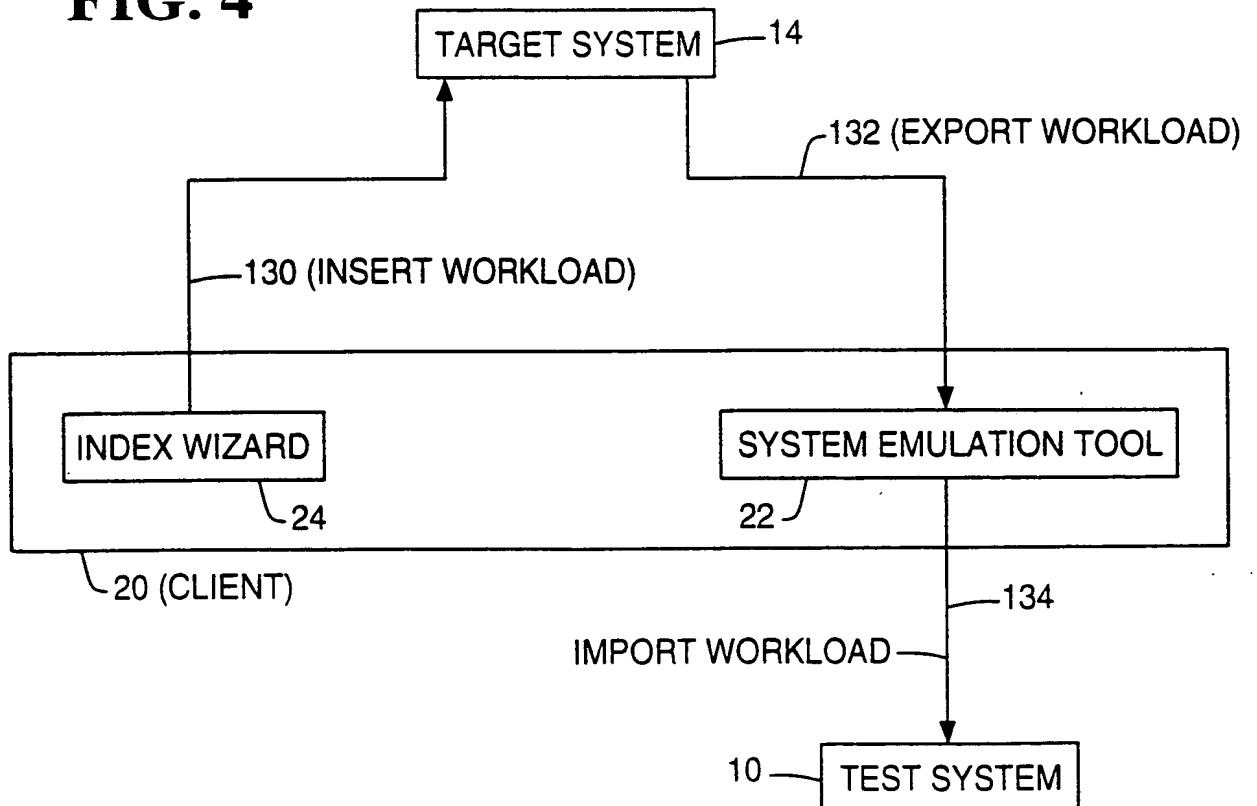
**FIG. 2**



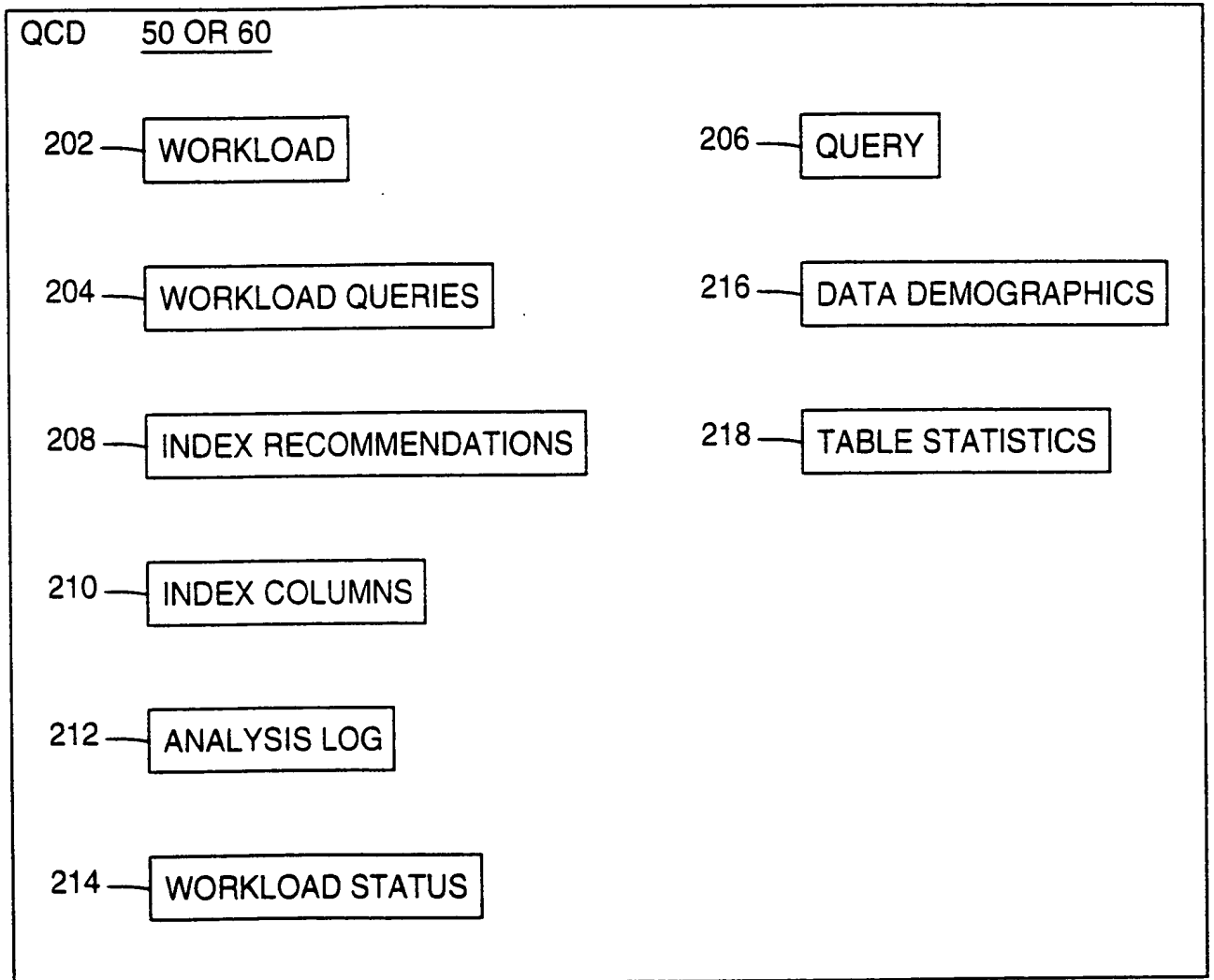
**FIG. 3**



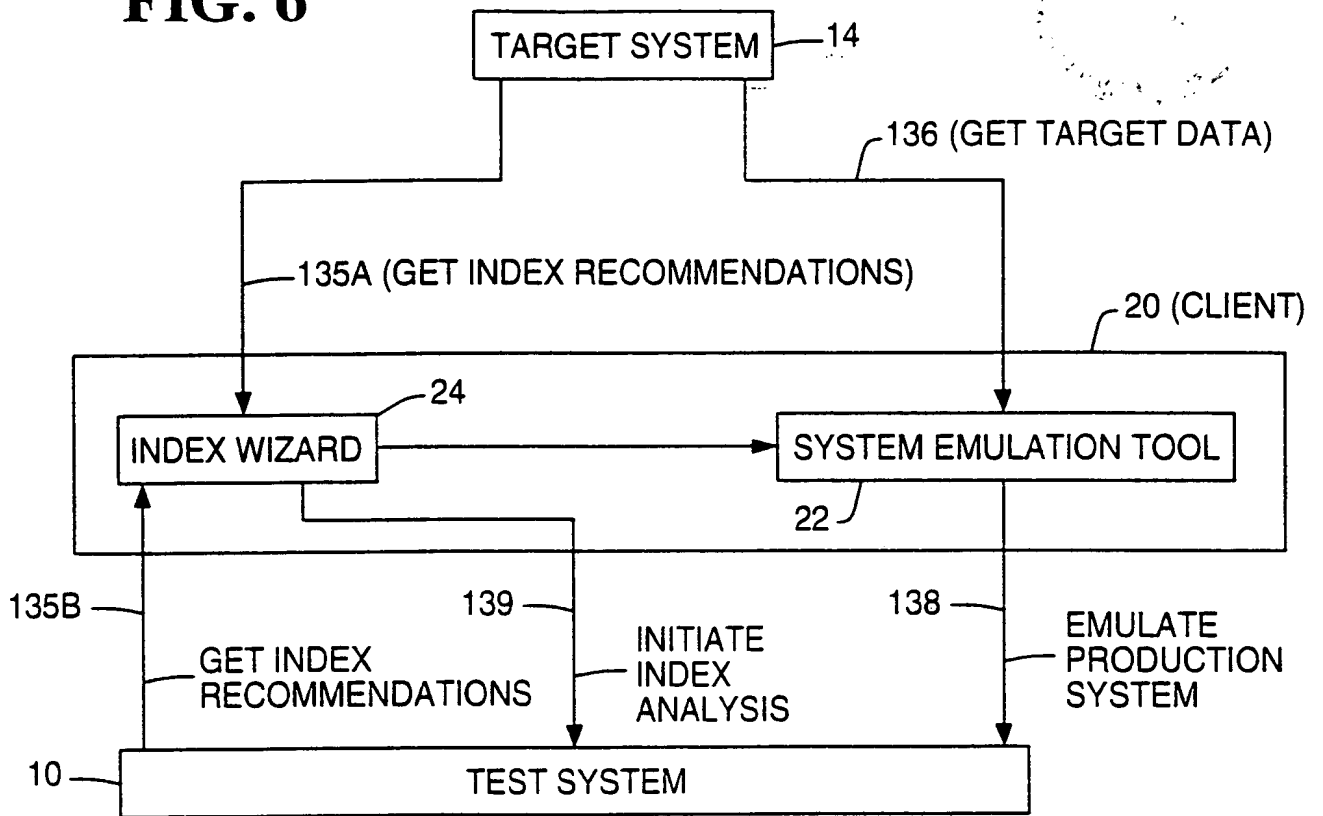
**FIG. 4**



**FIG. 5**



**FIG. 6**



**FIG. 8**

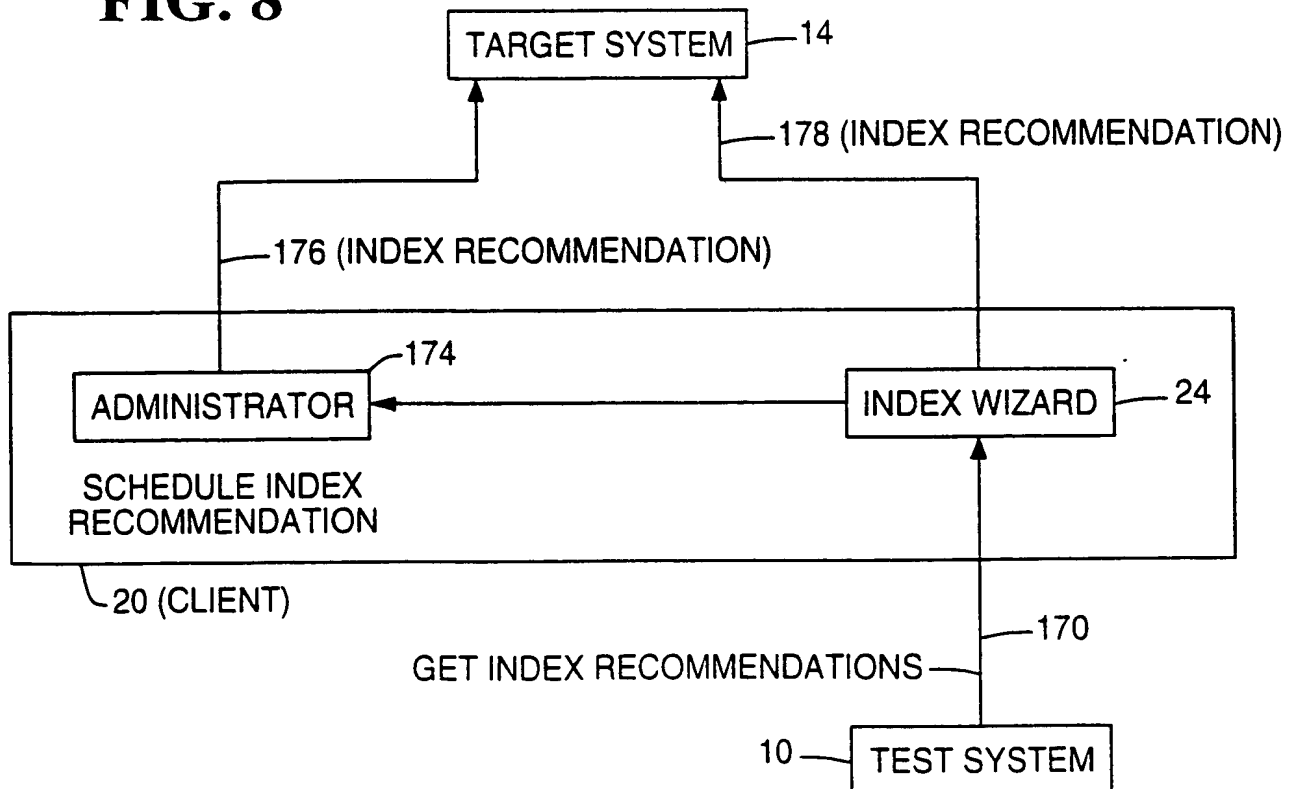
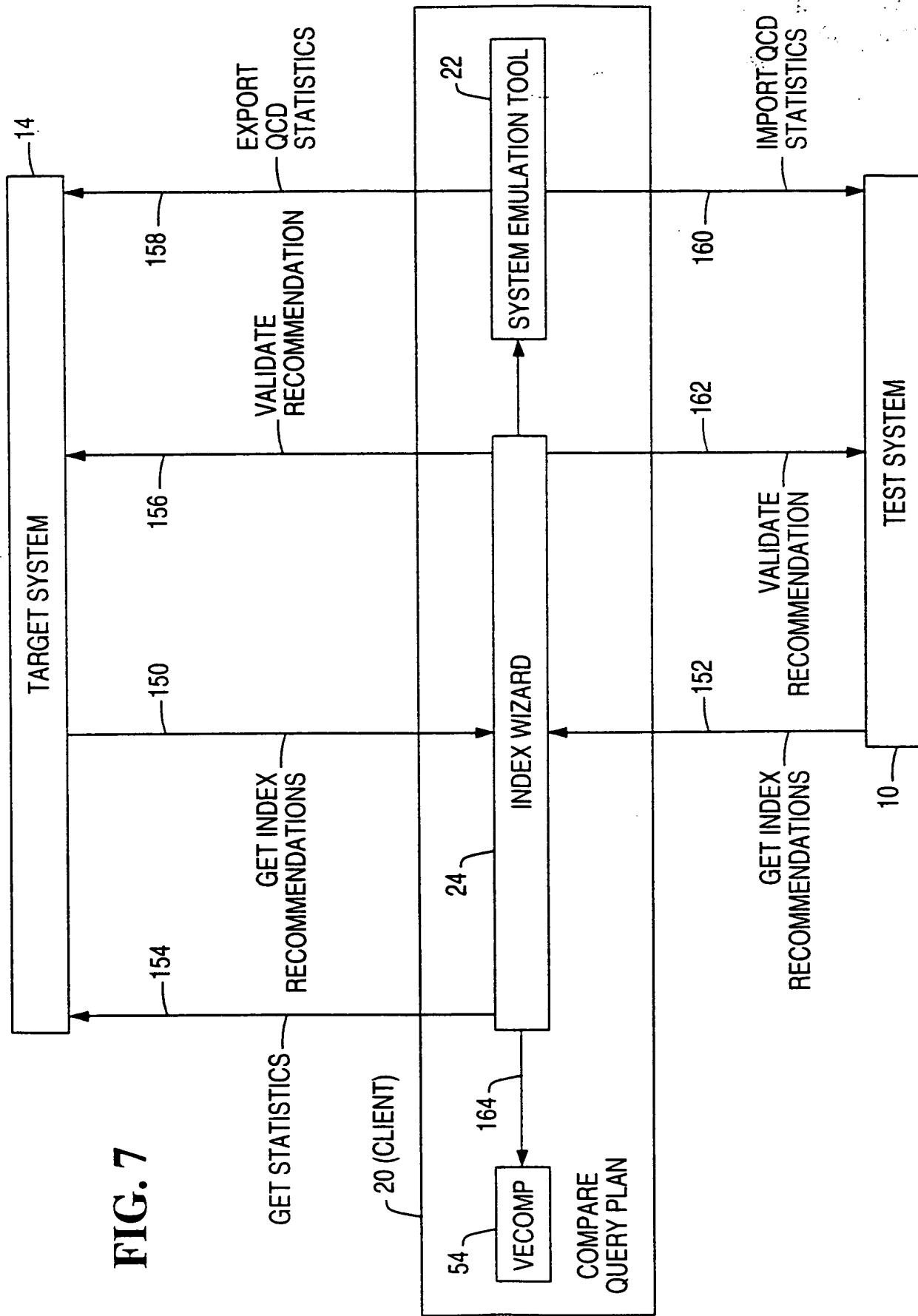
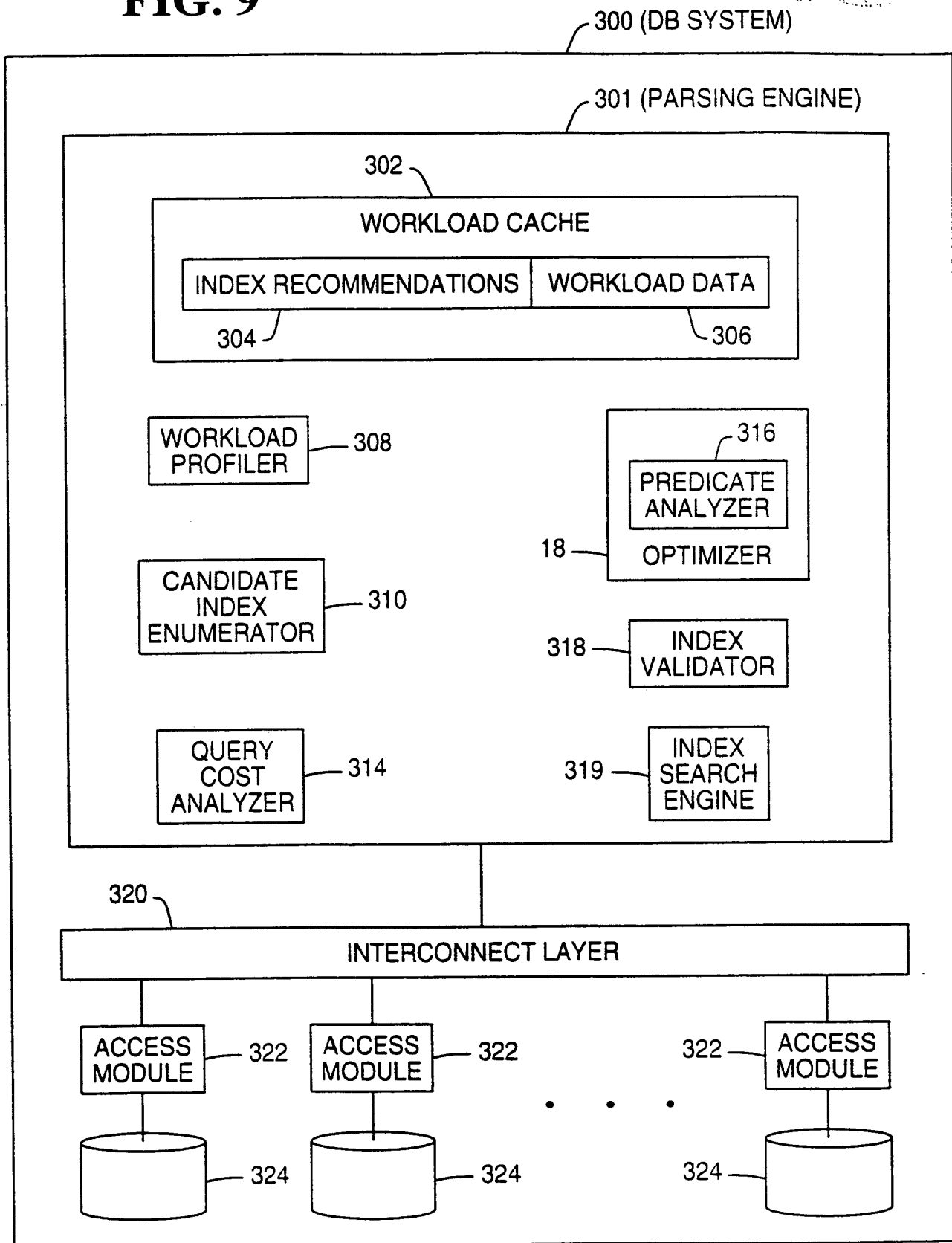


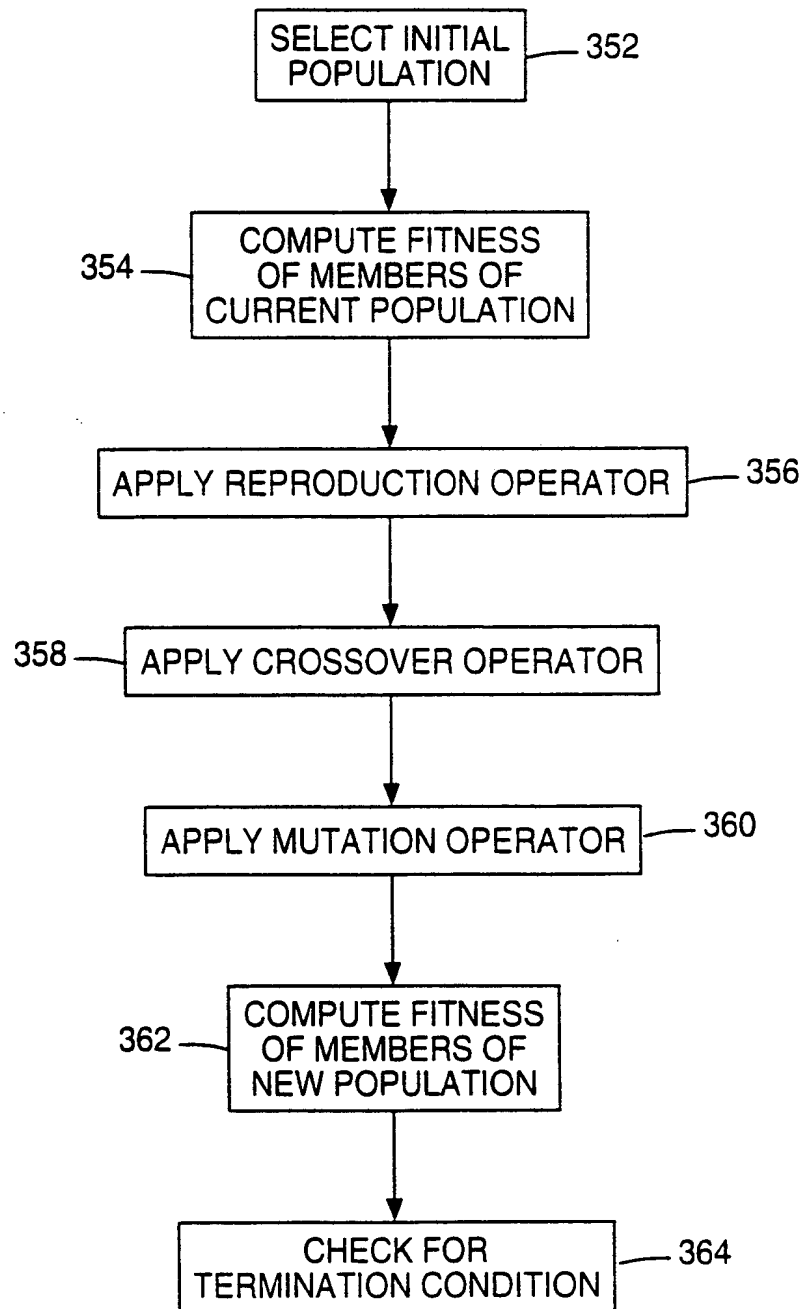
FIG. 7



**FIG. 9**



**FIG. 10**





**FIG. 11**

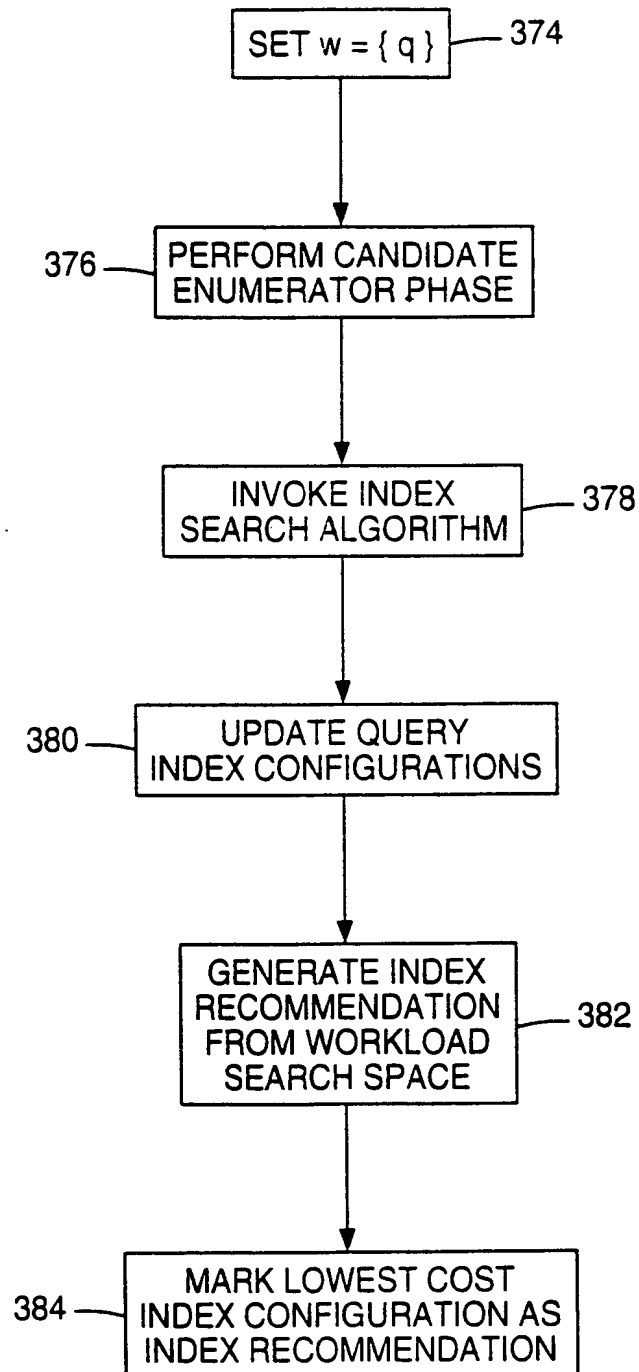


FIG. 12

400

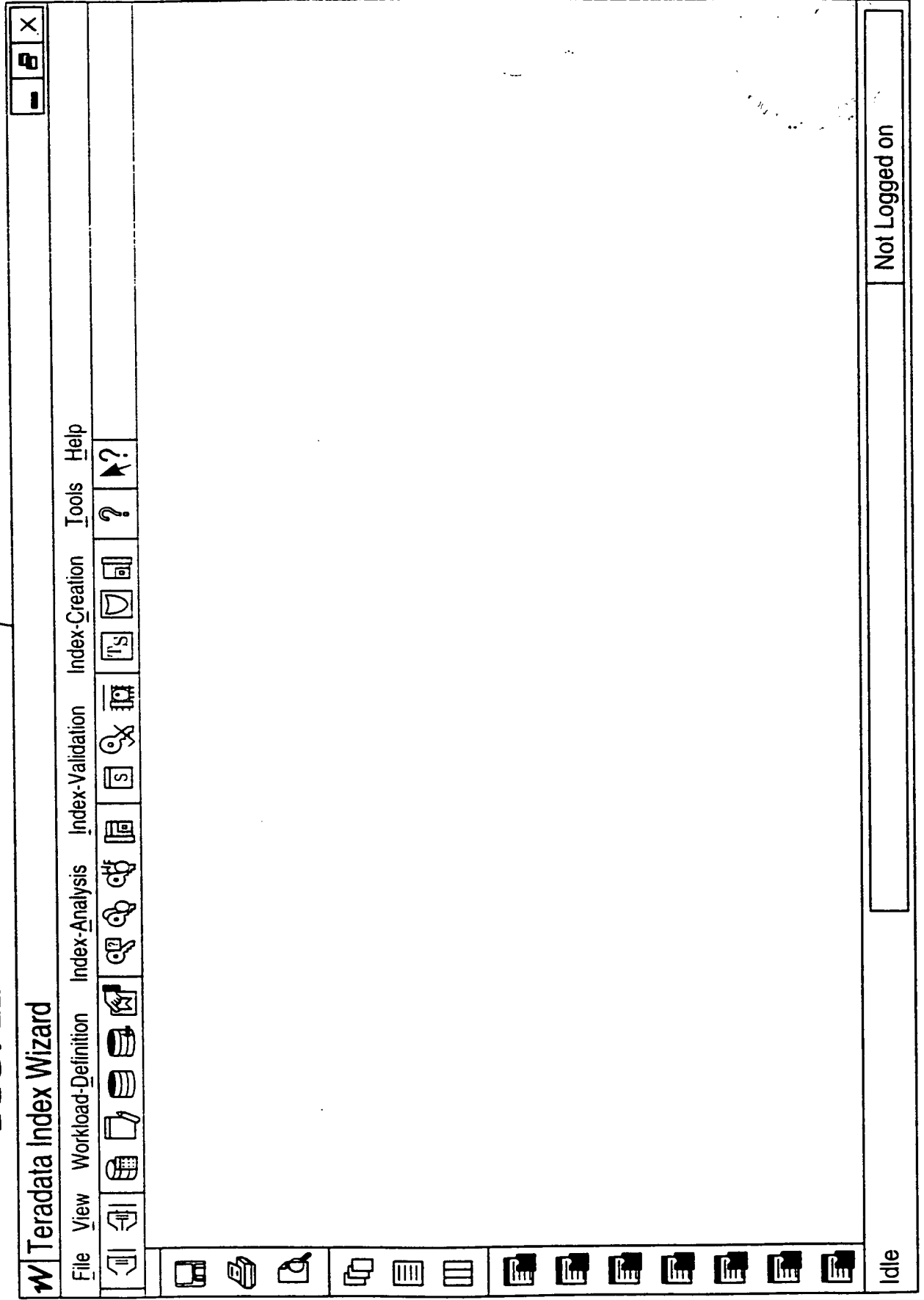


FIG. 13

400

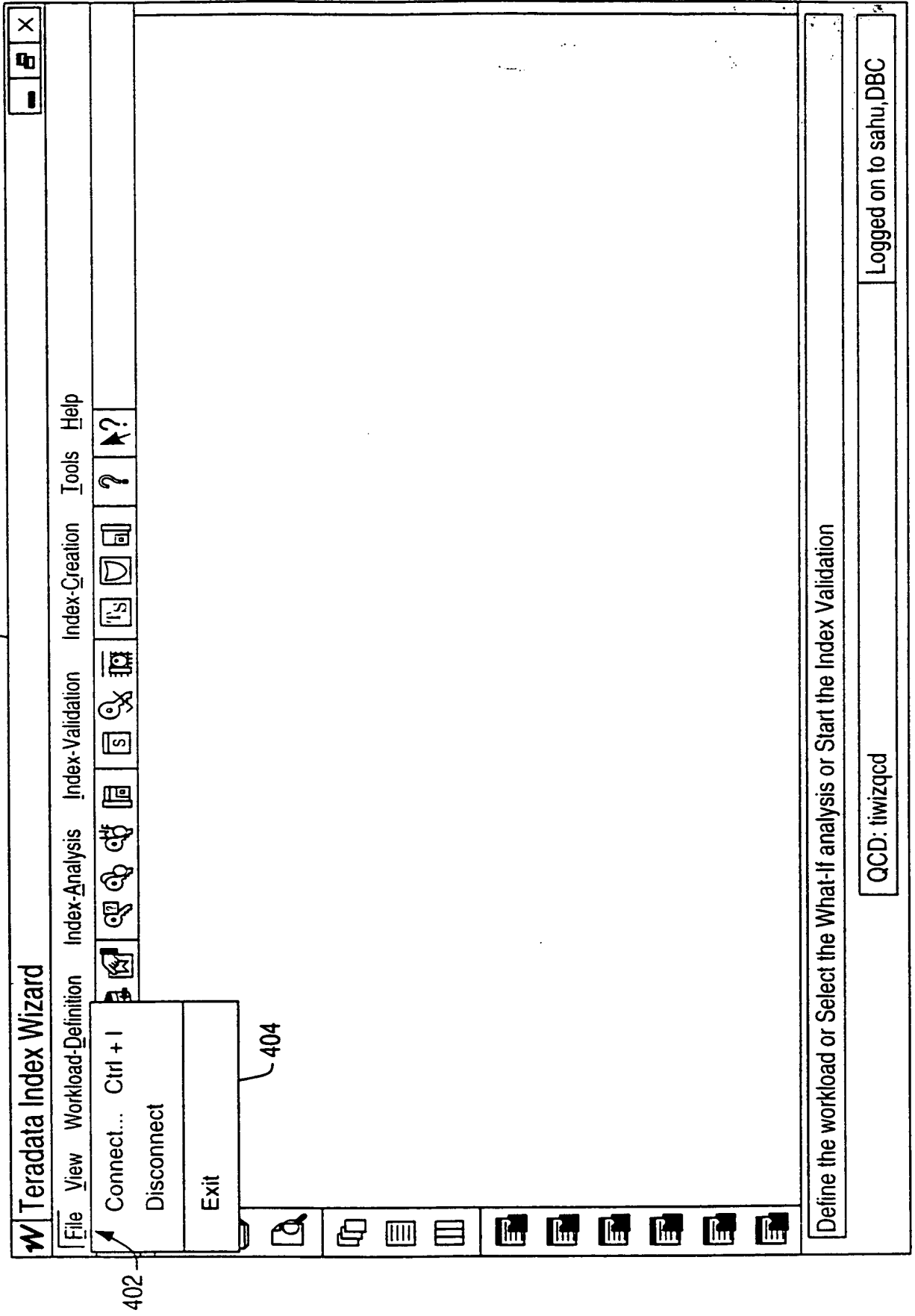


FIG. 14

400

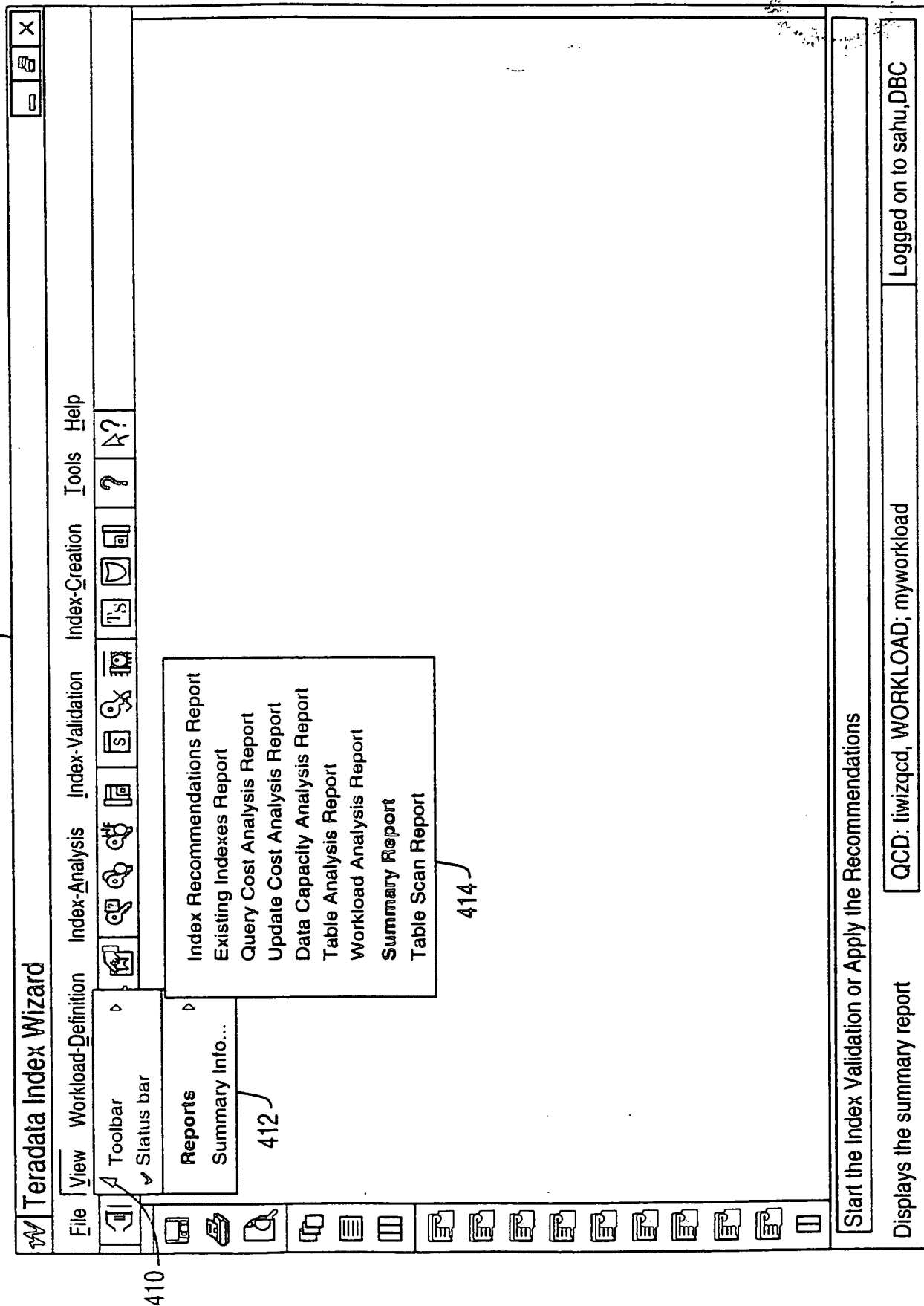
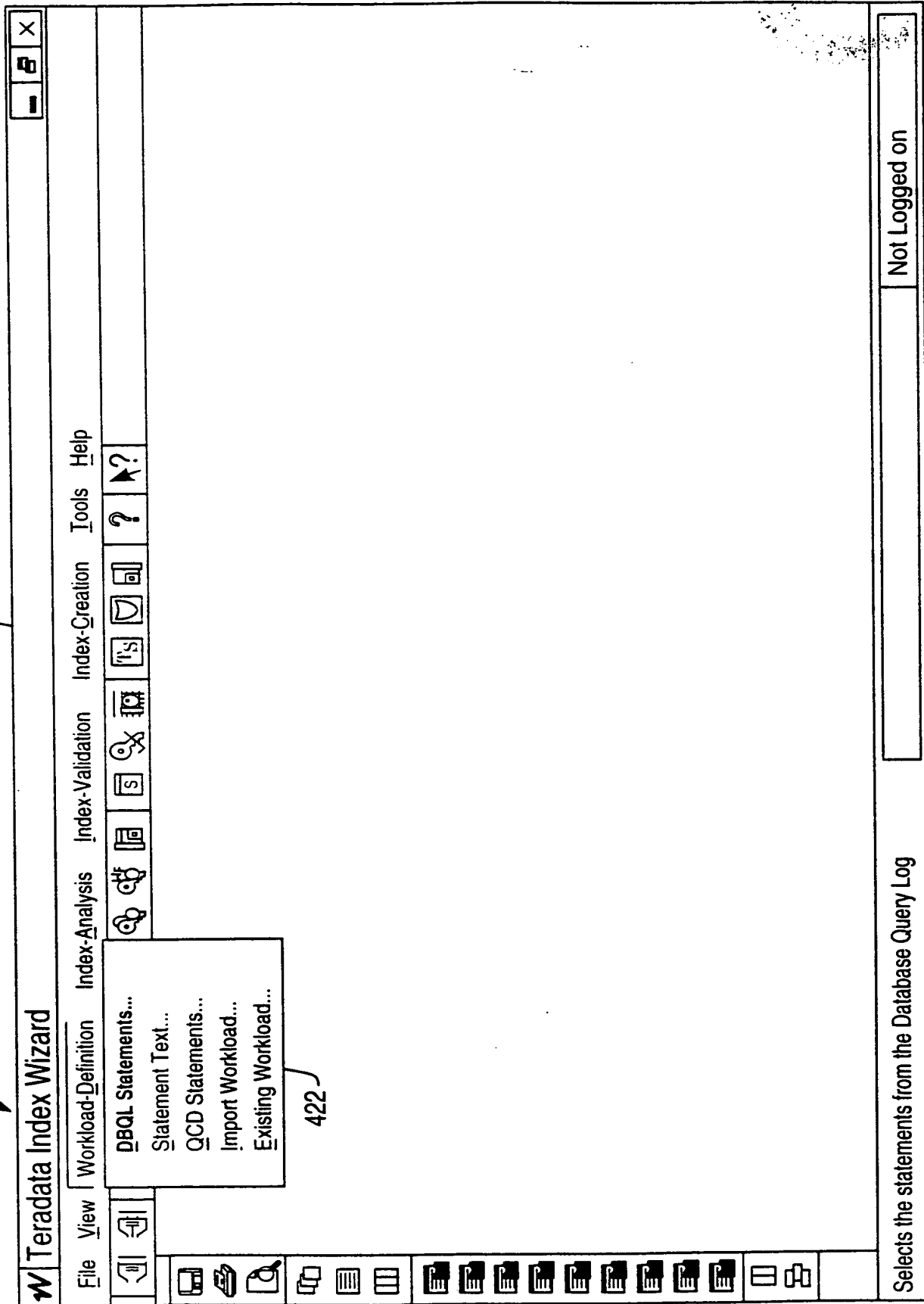


FIG. 15

400

420



422

**FIG. 16**

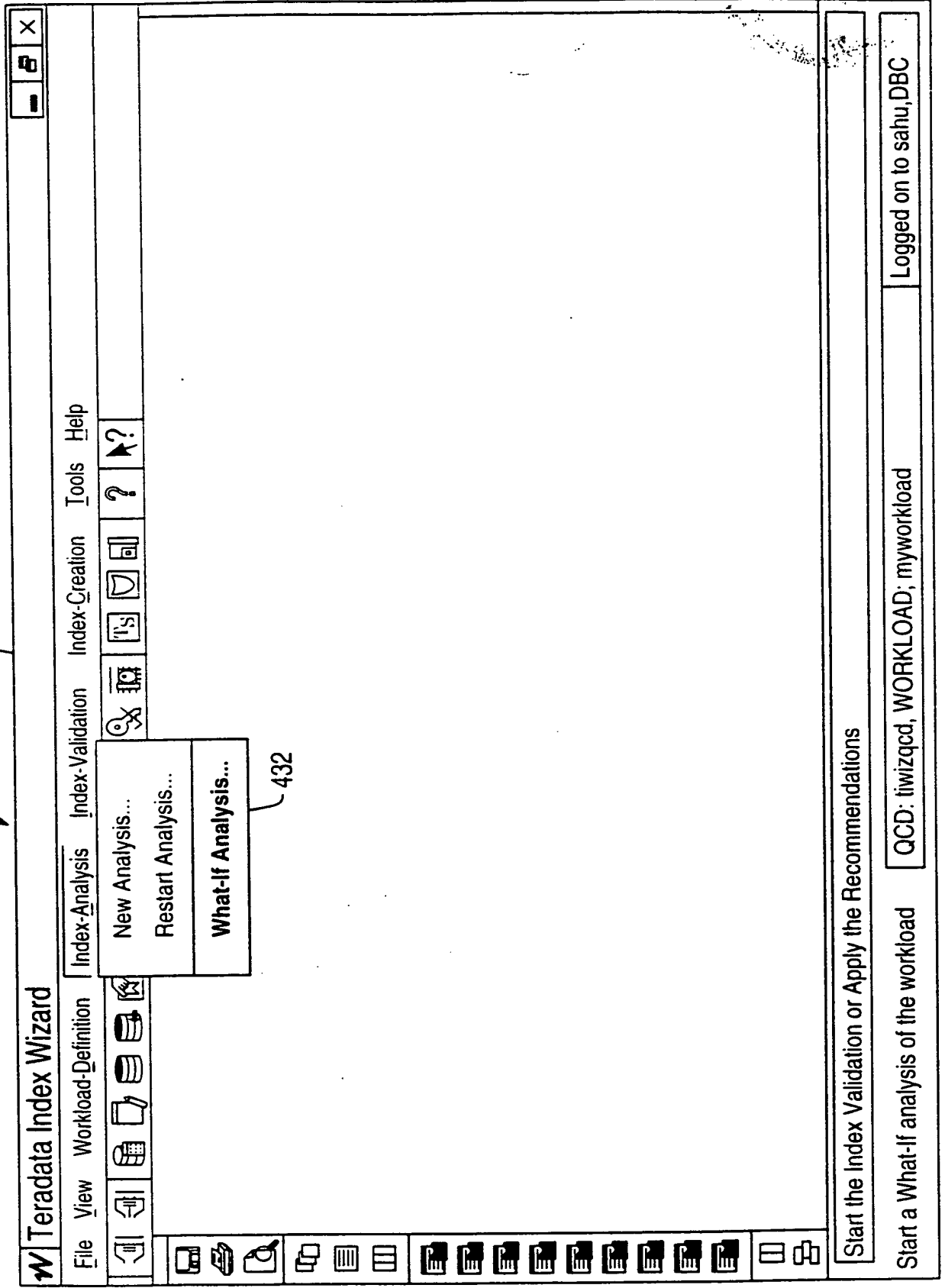


FIG. 17

440

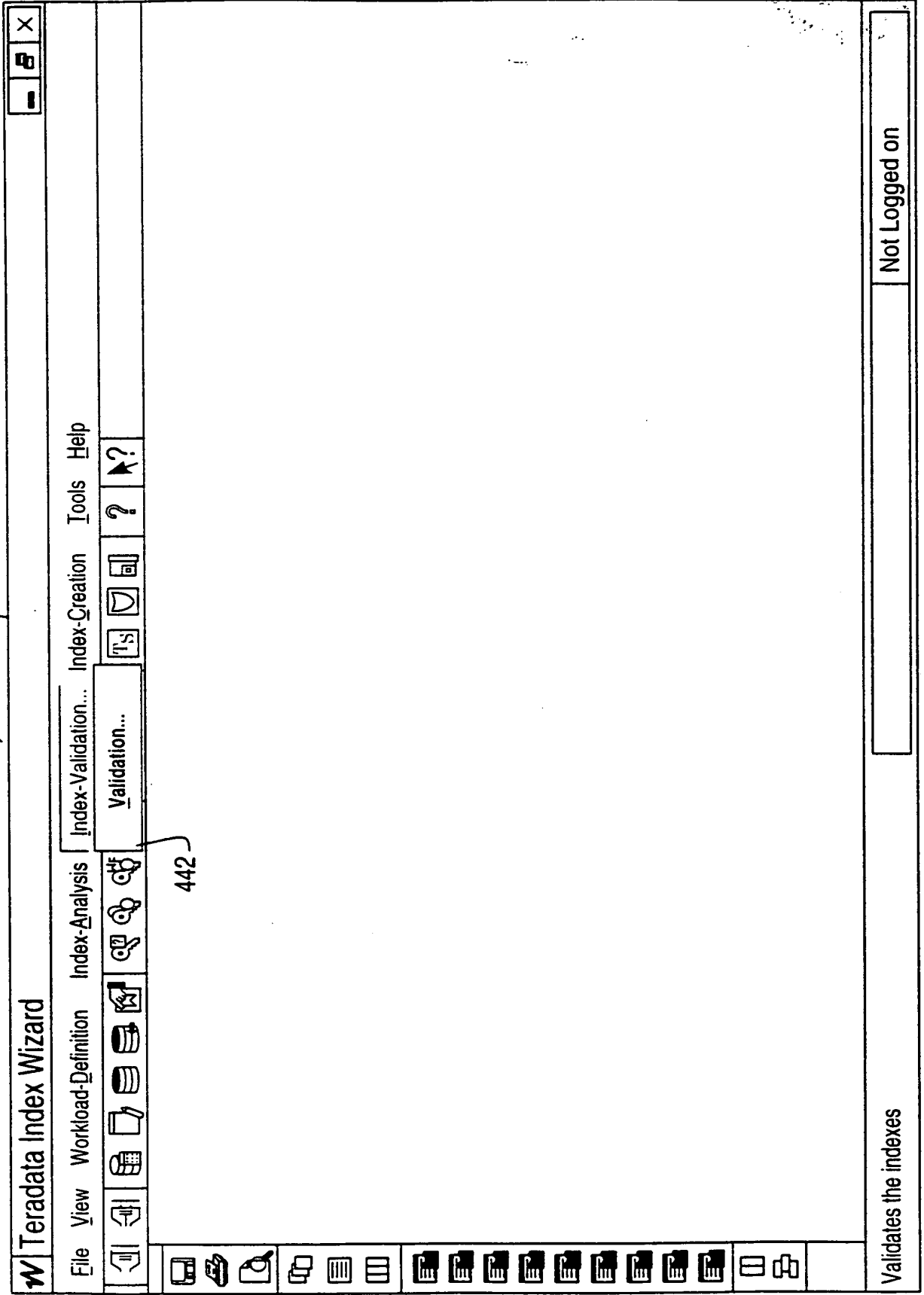


FIG. 18

450

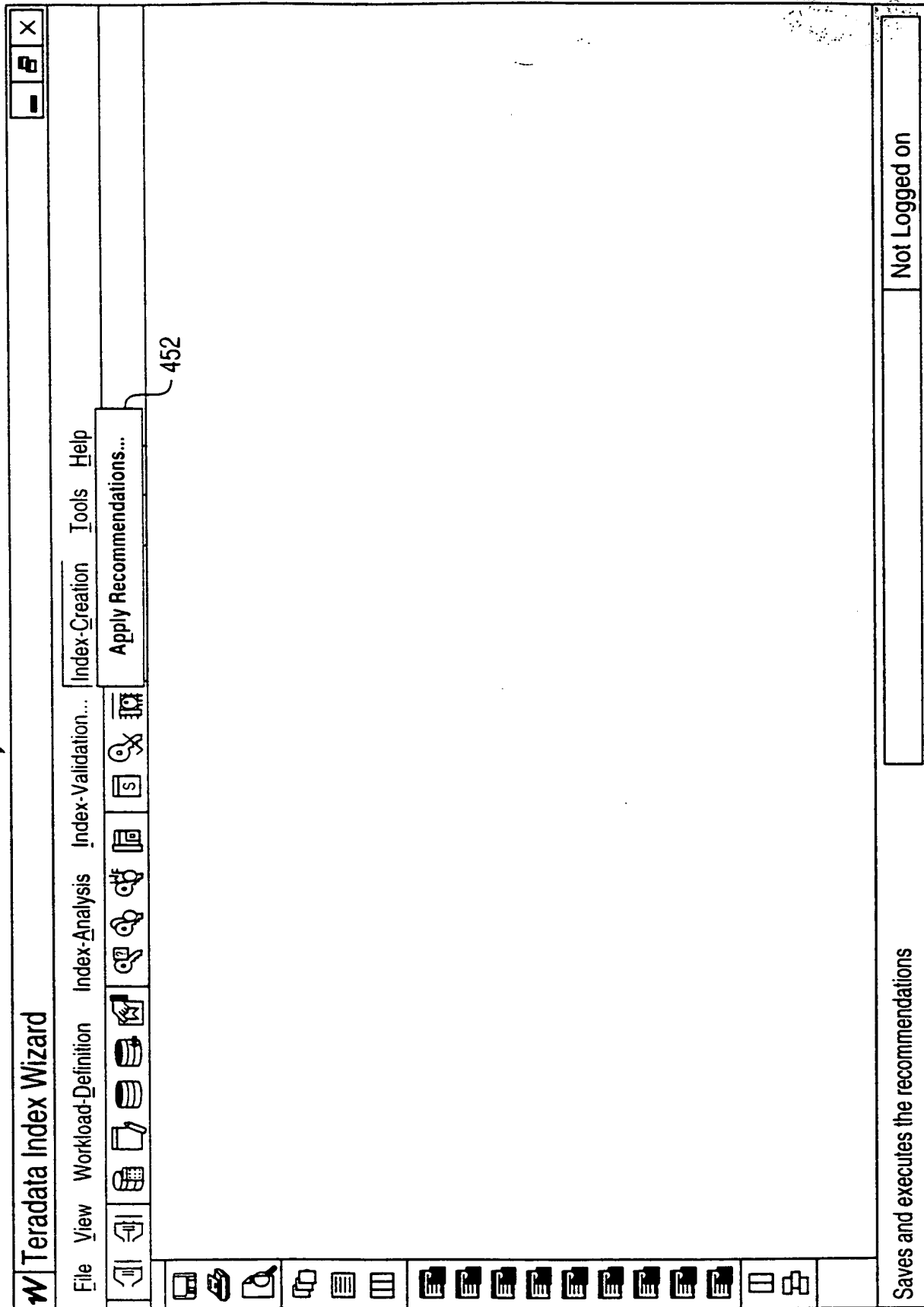
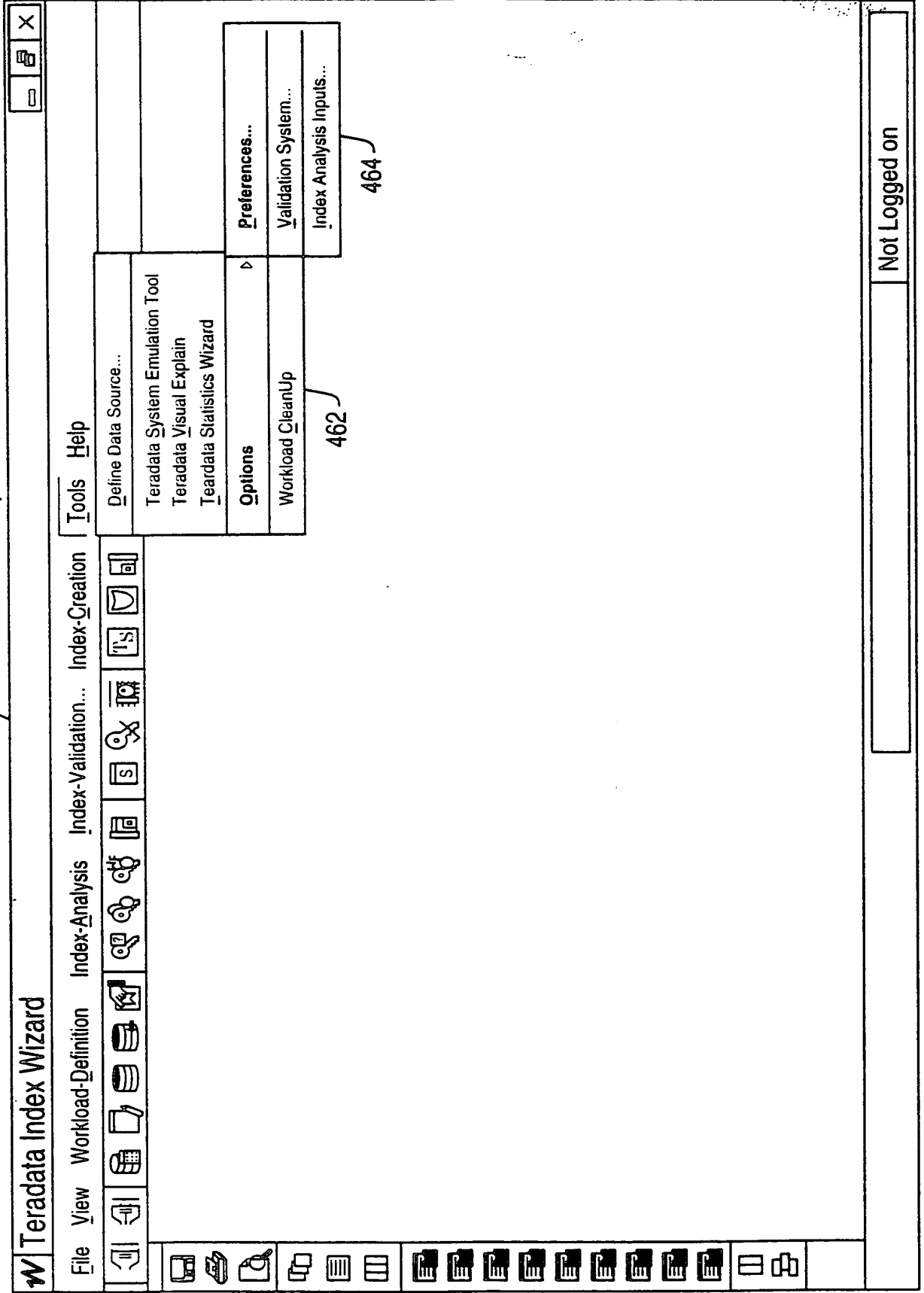




















FIG. 19

400

460



**FIG. 20**

	ICON	DESCRIPTION
800		TO LOGON TO THE TERADATA RDBMS SERVER
801		TO LOG OFF FROM THE TERADATA RDBMS SERVER
802		TO SELECT THE STATEMENTS FROM THE DBQL
803		TO ENTER THE SQL STATEMENTS OR SELECT THEM FROM MORE THAN ONE FILE
804		TO SELECT THE SQL STATEMENTS FROM THE QCD
805		TO IMPORT A WORKLOAD FROM A PRODUCTION SYSTEM
806		TO SELECT AN EXISTING WORKLOAD
807		TO SET/RESET THE INDEX ANALYSIS PARAMETERS
808		TO START INDEX ANALYSIS
809		<u>TO PERFORM "WHAT-IF" ANALYSIS</u>
810		<u>TO RESTART INDEX ANALYSIS FROM A CHECKPOINT</u>
811		TO DISPLAY SUMMARY INFORMATION
812		TO VALIDATE THE INDEXES
813		TO SCHEDULE THE CREATION OF INDEXES
814		TO VIEW THE HELP CONTENTS
815		TO GUIDE THE USER HOW TO USE HELP

**FIG. 21**

500

Define Workload

?

X

DBQL Search Criteria

User Name:

Account Name:

Start Time:

End Time:

Row Count:

I/O Count:

Frequency:

Statement Text:

503

Browse DBQL

DBQL Statements

502

Selected	Frequency	Statement Text

◀

▶

Workload Name:

Select All

Deselect All

OK

Cancel

510

# FIG. 23

520

? X

## Define Workload

QCD Statements

QCD Name:

Query Id:

Query Tag:

524

522

Select	Query	Frequ	Statement Text
<input checked="" type="checkbox"/>	19	1	Insert explain into tiwizqcd sel * from query,rela
<input checked="" type="checkbox"/>	17	1	Insert explain into tiwizqcd sel * from query;;;
<input type="checkbox"/>	15	1	sel * from query,relation where query.queryid =
<input checked="" type="checkbox"/>	13	1	sel * from query,relation ,workload;;;
<input type="checkbox"/>	32	1	sel * from query,relation where relation.relation
<input checked="" type="checkbox"/>	11	1	sel * from query,relation where query.queryid =
<input checked="" type="checkbox"/>	9	1	sel * from query,relation ,workload where quer
<input type="checkbox"/>	30	1	sel * from query;;;
<input type="checkbox"/>	28	1	Insert explain into TIWizQCD sel * from relatio

Workload Name:

FIG. 24

530

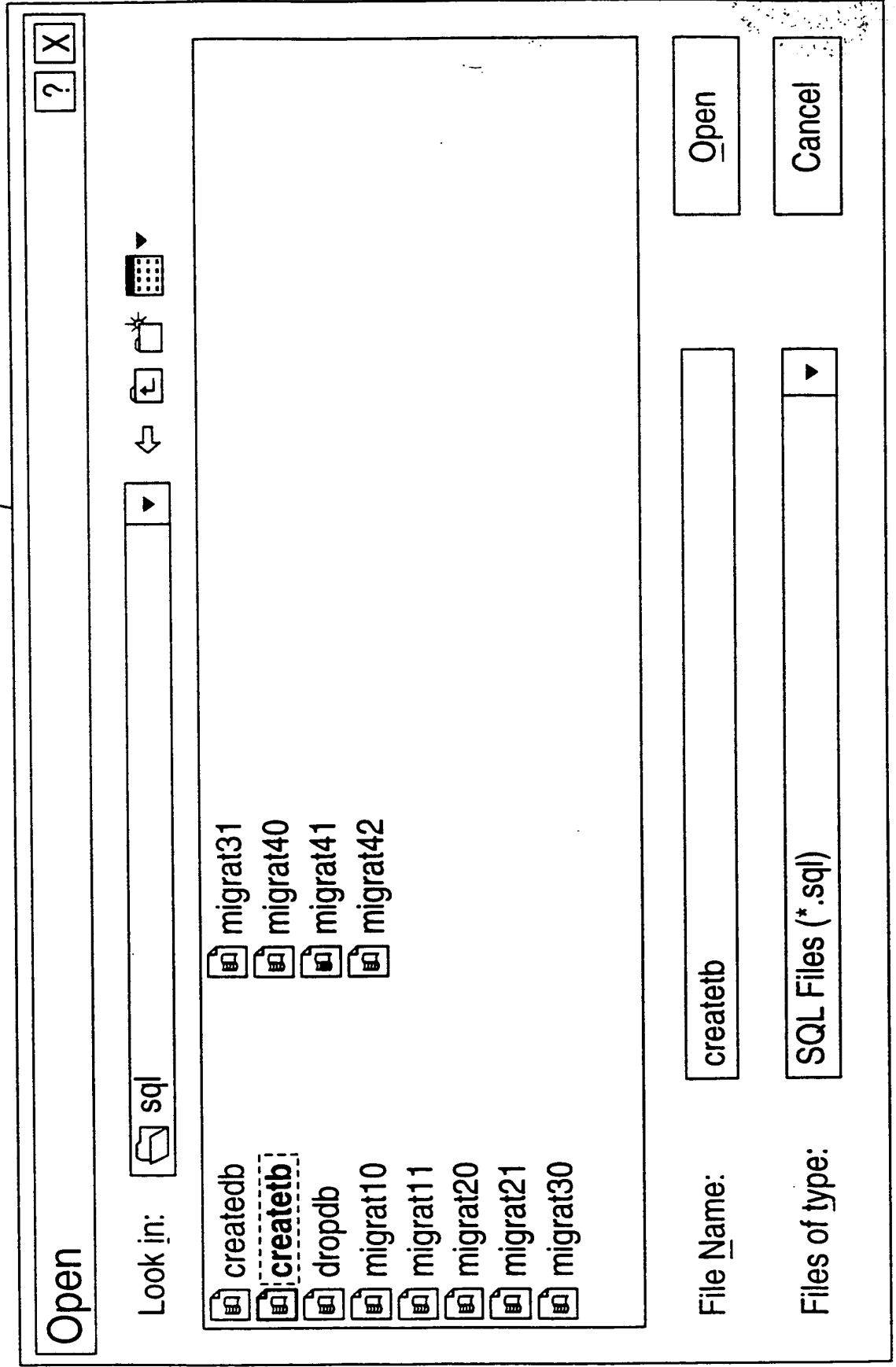


FIG. 25

540

Define Workload ? X

Select SQL Statements 542

Selected	Frequency	Statement Text
<input checked="" type="checkbox"/>	1	<b>SELECT DISTINCT t_2.t_2_c_2- t_</b>
<input type="checkbox"/>	1	<b>SELECT NULLIF ( t_4.t_4_c_3</b>
<input checked="" type="checkbox"/>	1	<b>DELETE FROM t_4 WHERE NO</b>
<input checked="" type="checkbox"/>	1	<b>DELETE t_1 WHERE NULLIF ( t_1</b>
<input type="checkbox"/>	1	<b>INSERT INTO t_2 ( t_2.t_2_c_1 , t_2.</b>
<input checked="" type="checkbox"/>	1	<b>UPDATE t_1 FROM t_5, t_2, t_3 SET</b>

◀ ▶

Workload Name: MyWorkload Select All Deselect All

OK Cancel

**FIG. 26**

550

Existing Workload
? X

**Workload Statements**

QCD Name:

TIWizQCD

...

Workload Name:

MyWorkload

▼

State	Freque	Statement Text	▲
1	1	sel * from query;;	
2	1	sel * from relation;;	▼

◀
▶

**Workload Status**

Recommend	Index Tag	Validate Sy	Validate Ti	Validate Q	Recom	▲
2	myindextag	deepika	7:43.670000	tiwizqcd	NONE	
1	MyIndexT ac	deepika	7:43.670000	tiwizqcd	NONE	
2	myindextag	deepika	7:43.670000	tiwizqcd	NONE	▼

◀
▶

**Modify Options**

☐ Qcd Statements

☐ Query Text

554

556  
 Modify

OK

Cancel



Existing Workload

?

X

Workload Statements

QCD Name:

TIWizQCD

...

Workload Name:

MyWorkload

Sele	State	Frequ	Statement Text
<input checked="" type="checkbox"/>	1	1	sel * from query;;
<input type="checkbox"/>	2	1	sel * from relation;;

Workload Status

Recommend	Index Tag	Validate Sy	Validate Ti	Validate Q	Recom
2	myindextag	deepika	7:43.670000	tiwizqcd	NONE
1	MyIndexT ac	deepika	7:43.670000	tiwizqcd	NONE
2	myindextag	deepika	7:43.670000	tiwizqcd	NONE

Modify Options

☐ Qcd Statements  
☐ Query Text

New Workload Name:

Update

OK

Cancel

FIG. 27

**FIG. 28**

560

Index Analysis Parameters

Index Analysis Inputs

☒ Keep existing indexes

Maximum Columns per Index: 4

Maximum Indexes per Table: 16

Index Search Space: 256

Change Rate Threshold: 5

OK Set Defaults Cancel

**FIG. 29**

570

Index Analysis

?

X

Workload Statements

572

Statement Id	Frequency	Statement Text	
3	1	sel * from query,relation where relation.relationid	▲
1	1	sel * from query;;	
2	1	sel * from relation;;	▼

Select Tables

574

Selected	Database Name	Table Name	Access
<input checked="" type="checkbox"/>	tiwizqcd	QUERY	3
<input checked="" type="checkbox"/>	tiwizqcd	RELATION	2

Select All

Deselect All

Restart Parameters

Index Tag: Checkpoint Frequency:

Save Options

☐ Save Recommendations in Files☐ Save Execution Plans in Files

OK

Cancel

**FIG. 30**

580

**Restart Index Analysis** [?] [X]

Restart parameters

QCD Name: TIWizQCD

Workload Name: MyWorkload ▼

Index Tag: MyIndexTag ▼

Save option

☒ Save Recommendations

☐ Save execution plans

OK Cancel

FIG. 31

What-If Analysis

?

X

Workload Details

QCD Name: tiwizqcd

Workload Name: MyWorkload

Index Tag: MyIndextag

View Recom...

View Report...

Analysis

DDL Text: CREATE INDEX index\_5 (TableName) on Relation;

Add ->

Rem

Rem All

Selected DDL Statements:

Statement Text

COLLECT STATS Relation INDEX inde

COLLECT INI

COLLECT STATS Relation INDEX inde

COLLECT INDEX index\_5 (TableName)

View Statement

Analyze

View Graph

View View Graph

Browse...

Conclusion: An overall improvement of 31.34 in the performance of the system

OK

Compare...

Cancel

# FIG. 32

620

Index Recommendation Report

Index Recommendation Report

QCD Name: tiwizqcd

Workload Name: myworkload

Index Tag: myindextag

Table Name	Index Tag	Index T...	Size(KB)	Time Esti...	Index DDL	Stats DDL
QUERY	MyIndextag	USI	10.00	59.00	CREATE INDEX...	COLLECT STATS
RELATION	MyIndextag	USI	10.00	59.00	CREATE INDEX...	COLLECT STATS
RELATION	MyIndextag	USI	10.00	59.00	CREATE INDEX...	COLLECT STATS

◀

▶

622

**FIG. 33**

630

Existing Indexes Report		
Existing Indexes Report		
QCD Name: TIWizQCD	Workload Name: myworkload	Index Tag: MyIndexTag
Table Name	Index Name	Index Type
QUERY	PK_QueryID	P
RELATION	PK_RelationKey	P
		Columns
		QueryID
		RelationKey

632

# FIG. 34

640

Query Cost Analysis Report

Query Cost Analysis Report

QCD Name: TIWizQCD

Workload Name: myworkload

Index Tag: MyIndexTag

Query Type	Cost/(with existing i...	Cost/(with recommended...	Percentage Cha...	Query Text...
SELECT	100.00	50.00	100.00	sel * from query,relation w
SELECT	100.00	50.00	100.00	sel * from query;;
SELECT	100.00	50.00	100.00	sel * from relation;;

642



FIG. 35

650

Update Cost Report

Update Cost Report

QCD Name: MyTextQCD      Workload Name: MyWorkload      Index Tag: Index1

Table Name	Indexes	Update Cost
No rows returned		

652

FIG. 36

660

Disk Space Analysis Report

QCD Name: TIWizQCD

Workload Name: myworkload

Index Tag: MyIndexTag

Disk Space Analysis Report

Table Name	Index Name	Size(KB)
QUERY	MyIndextag	10.00
RELATION	MyIndextag	10.00
RELATION	MyIndextag	10.00

662

<

>

# FIG. 37

670

Table Usage Report

Table Usage Report

QCD Name: TIWizQCD

Workload Name: myworkload

Index Tag: MyIndexTag

Table Name	Access Count	Statement Text
QUERY	1	sel * from query,relation where relation.relationid = query.queryid and query.qu
RELATION	1	sel * from query,relation where relation.relationid = query.queryid and query.qu
QUERY	1	sel * from query;;
RELATION	1	sel * from relation;;

672

680

682

FIG. 39

690

Summary Report

Summary Report

QCD Name: TIWizQCD

Workload Name: myworkload

Index Tag: MyIndexTag

Table Name	Index Name	Index DDL	Stats DDL
QUERY	MyIndextag	CREATE INDEX index_3 (QueryText) on Query;	COLLECT STATS Query IND
RELATION	MyIndextag	CREATE INDEX index_4 (name) on Relation;	COLLECT STATS Relation I
RELATION	MyIndextag	CREATE INDEX index_4 (name,TableName) o...	COLLECT STATS Relation I

692

-700

702

**FIG. 41**

710

? X

## Workload Clean Up

**Workload Statements**

QCD Name:  

TIWizQCD

...

Workload Name:  

MyWorkload

▼

State	Frequ	Statement Text	▲
1	1	sel * from query;;	
2	1	sel * from relation;;	▼

◀
▶

**Workload Status**

Select	Recommend	Index Tag	Validate Sy	Validate Ti	Validate Q	▲
<input checked="" type="checkbox"/>	2	myindextag	deepika	7:43.670000	tiwizqcd	
<input checked="" type="checkbox"/>	1	MyIndexT ac	deepika	7:43.670000	tiwizqcd	
<input checked="" type="checkbox"/>	2	myindextag	deepika	7:43.670000	tiwizqcd	▼

◀
▶

**Delete Options**

☐ Delete Workload  
☐ Delete Plans

☒ Delete Analysis

Delete

OK

Cancel

**FIG. 42**

730

**Load Recommendations** [?] [X]

☒ Load Recommendations from QCD

☐ Load Recommendations from file

TIWizQCD,MyWorkload 732 **Browse...**

734 **OK** **Cancel**

**FIG. 43**

740

**Load Recommendations Details** [?] [X]

QCD Name: TIWizQCD

Workload Name: MyWorkload ▼

Index Tag: myindextag ▼

742 **OK** **Cancel**



**FIG. 44**

750

**Index Validation**

☐ ☐ ☐ X

Validate Indexes

Select indexes to be validated: 752

☒ Validate on another system

Sele	Table	Index	Index	Columns	Index DDL	▲
<input checked="" type="checkbox"/>	QUER	MyInd		Query Text	CREATE INDEX index_3 (Query T	
<input checked="" type="checkbox"/>	RELA	MyInd		name	CREATE INDEX index_4 (name) o	
<input checked="" type="checkbox"/>	RELA	MyInd		TableName	CREATE INDEX index_4 (name T	▼
◀ ▶						

Select All

Deselect All

View DDL...

Validate

754
756

Validation Results 758

Table Name	Index Name	% Sample on which statistics were collected	▲
QUERY		10	
RELATION		10	
RELATION		10	▼
◀ ▶			

Conclusion: An overall improvement of 38.24 in the performance of the system

Compare Options:

Compare on same system ▼

View Graph

OK

Compare...

Cancel

762

760

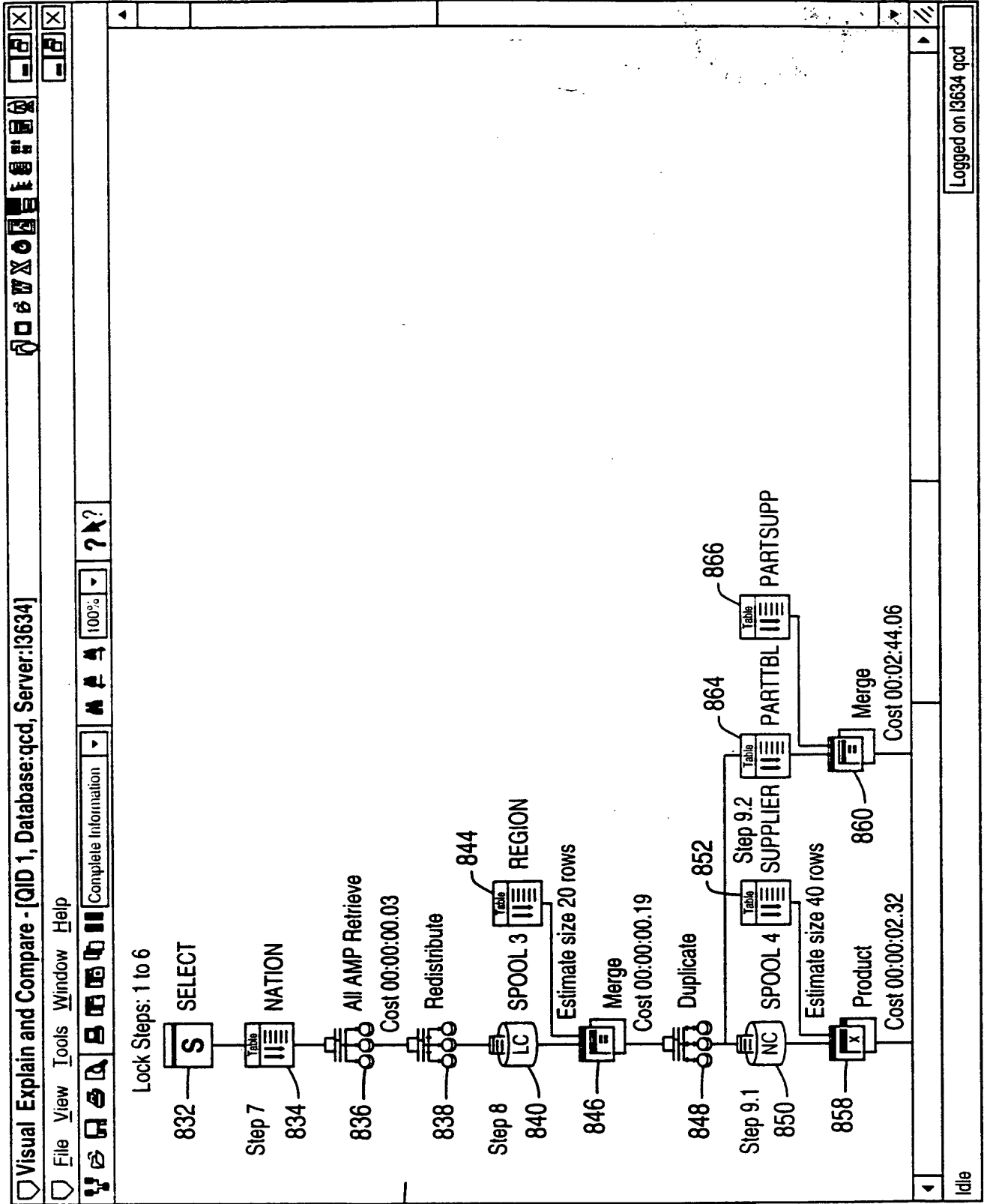


FIG. 45

830

FIG. 46

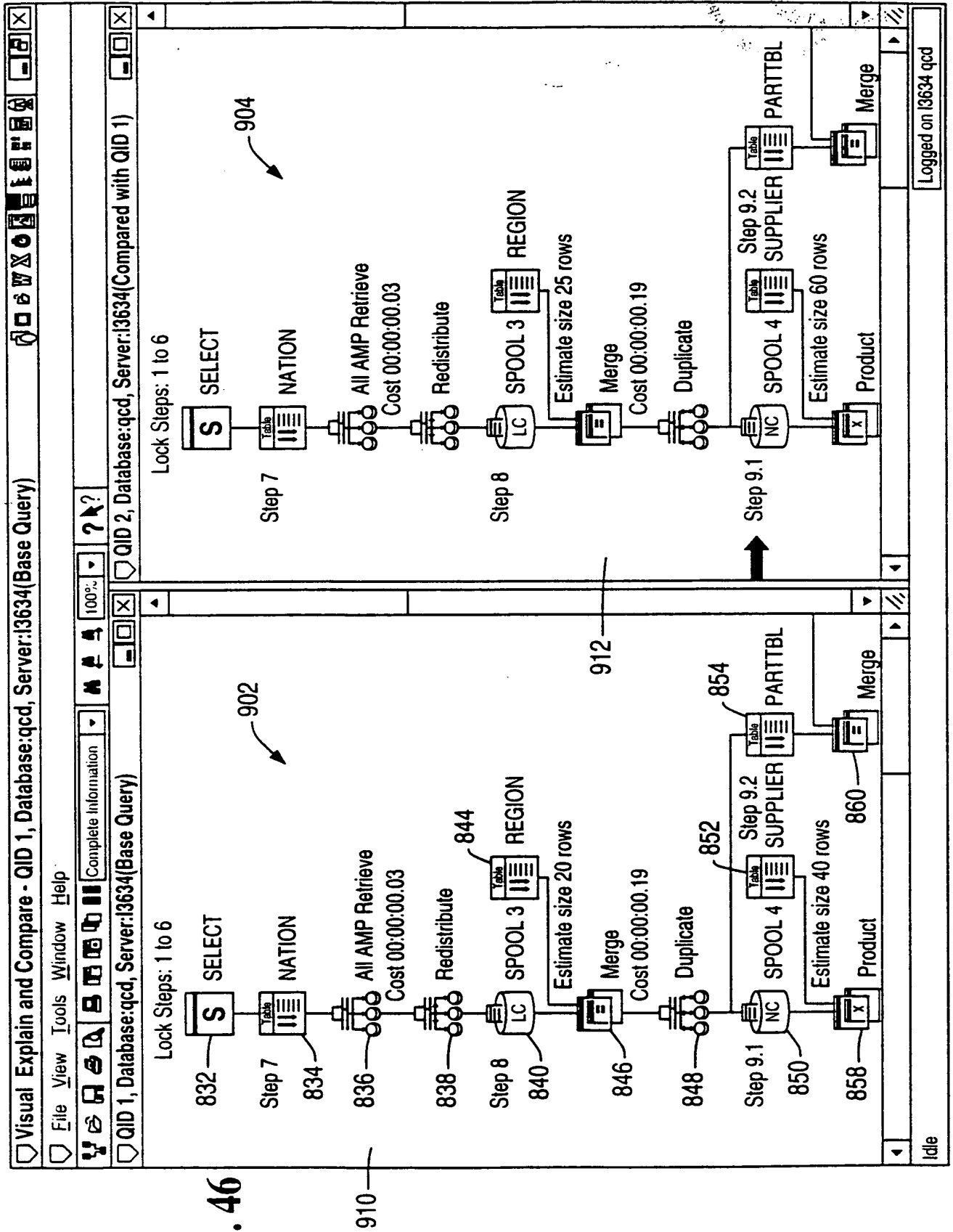


FIG. 47

